10-16-91

AREA —	ROC/$3.00	NOx/$3.00	PM/32.25	SO2/2150	CO/$20	Cl2/3225	F2/32.25	FREON/32.25	MeCl2/32.25	TCE/32.25	TOTAL
ALFA/BRAVO	$3010.00	$47300.00	$12900.00	$1290.00						$4327.95	$68828.00
STL III	63210.86	18615.60	0.32	0.22				425.70	2.58		82255.00
COCA	0.43	27477.00	0.32	0.22							27478.00
CTL III	15700.20	30.10	0.32	0.22	8427.91						24159.00
TOTALS	$81921.49	$93422.70	$12900.96	$1290.66	$8427.91			$425.70	$2.58	$4327.95	$202720.00
				PERMITTED TONS/YR							
ALFA/BRAVO	$61.06	$595.12	$84.17	$18.70	$4275.10					$216.40	$5250.55
STL III	2585.16	973.09	0.97	0.22	176683			42.57			5368.89
COCA	0.43	359.00	0.32	0.22	0.22						360.19
CTL III	185.34	—	—	—	298.98						486.82
TOTALS	$2835.00	$1927.21	$85.96	$18.92	$6340.63			$42.57		$216.40	$11466.40
GRAND TOTAL	$84756.50	$95349.91	$12986.42	$1309.58	$14768.54			$468.27	$2.58	$649.35	$214186.40
			—	TOTAL PERMIT —							
ALFA/BRAVO	$74,078.55										
STL III	$87,623.84										
COCA	$27,838.19										
CTL III	$24,645.82										
TOTAL —	$214186.40										

CLW

BNA00294572
HDMSt00006778

DESCRIPTION OF IGNITOR FLUSHING PROCESS AND EMISSIONS ESTIMATE

RP-1 will be stored in a ?? gallon storage vessel. The RP-1 will be flushed through rocket engine ignitors between quality control tests to remove any triethyl aluminum/triethylborate (TEA/TEB) that may remain in the test article. IF TEA/TEB is left in the ignitor and lines, the results of subsequent tests will be invalid.

The residual RP-1/TEA/TEB mixture will be captured in a ?? gallon storage vessel, which has a liquid surface area greater than 1 square foot.

After the igntor tests, the set of lines going to the ignitor will be flushed with RP-1 and the RP-1 will be collected in a separate container (55 gallon drum). The RP-1 flush will be followed by a nitrogen purge to remove any RP-1 that may remain in the lines.

It is estimated that xx lbs of ROC will be lost to the atmosphere in any 12 month period. This is based on xx tests being conducted, assuming that xx gallons of RP-1 will be flushed.

BNA01826460

HDMSt00006779

BNA01826461
HDMSt00006780

Emission Calculations for Hypergol Load Facility

Recent Test History

LOT No.	Date Tested	Igniter Type	Ave Weight	Number Tested	Fluid Type	Quantity Consumed*	Species Produced* H20	B3H3O6	CO2	B2O3	AL2O3
3105B	7/19/88	651332	100 gms	15	TEAB	750 0 gms	965.5 gms	220 8 gms	1,977 4 gms	51 5 gms	50 5 gms
3105A	7/27/88	650566-21	46 gms	15	TEAB	345 0 gms	444.1 gms	101 6 gms	909 6 gms	23.7 gms	23 2 gms
3105C	8/29/88	650566-31	46 gms	15	TEAB	345 0 gms	444.1 gms	101 6 gms	909 6 gms	23 7 gms	23 2 gms
3105D	9/27/88	650566-41	46 gms	15	TEAB	345 0 gms	444.1 gms	101 6 gms	909 6 gms	23 7 gms	23 2 gms
3105E	11/18/88	651337	100 gms	15	TEAB	750 0 gms	965.5 gms	220.8 gms	1,977 4 gms	51 5 gms	50 5 gms
Total for 1988							***3,263.5 gms***	***746.2 gms***	***6,683.5 gms***	***173.9 gms***	***170.7 gms***
							6.5 lbs	***1.5 lbs***	***13.4 lbs***	***0.3 lbs***	***0.3 lbs***
3105B	2/15/89	651150-11	83 gms	19	TEA	788 5 gms	N/A	N/A	N/A	N/A	N/A
3105A	5/1/89	651150-11	83 gms	19	TEA	788.5 gms	N/A	N/A	N/A	N/A	N/A
3105F	6/2/89	651150-21	68 gms	15	TEAB	510 0 gms	656 6 gms	150 1 gms	1,344.6 gms	35.0 gms	34.3 gms
3105G	7/11/89	651337	100 gms	15	TEAB	750 0 gms	965 5 gms	220 8 gms	1,977 4 gms	51.5 gms	50 5 gms
3105H	7/17/89	650566-41	46 gms	15	TEAB	345.0 gms	444 1 gms	101 6 gms	909 6 gms	23.7 gms	23 2 gms
Total for 1989							***2,066.2 gms***	***472.4 gms***	***4,231.6 gms***	***110 1 gms***	***108.0 gms***
3105J	2/19/90	651150-21	68 gms	15	TEAB	510.0 gms	656 6 gms	150 1 gms	1,344 6 gms	35.0 gms	34.3 gms
3105K	2/22/90	651337	100 gms	15	TEAB	750 0 gms	965.5 gms	220 8 gms	1,977 4 gms	51 5 gms	50 5 gms
3105L	3/20/90	651150-21	68 gms	15	TEAB	510.0 gms	656.6 gms	150.1 gms	1,344 6 gms	35 0 gms	34.3 gms
Total for 1990							***2,278.6 gms***	***521.0 gms***	***4,666.6 gms***	***121.4 gms***	***119 2 gms***
3105N	11/26/91	651150-21	68 gms	15	TEAB	510.0 gms	656.6 gms	150.1 gms	1,344 6 gms	35 0 gms	34.3 gms
3105M	12/3/91	650566-41	46 gms	15	TEAB	345 0 gms	444.1 gms	101.6 gms	909 6 gms	23 7 gms	23 2 gms
Total for 1991							***1,100.7 gms***	***251.7 gms***	***2,254.2 gms***	***58.7 gms***	***57.6 gms***
3105P	Oct-94	651150-21	68 gms	15	TEAB	510 0 gms	656.6 gms	150.1 gms	1,344 6 gms	35 0 gms	34 3 gms
3105R	Oct-94	651150-21	68 gms	15	TEAB	510 0 gms	656 6 gms	150.1 gms	1,344.6 gms	35 0 gms	34 3 gms
Total for 1994							***1,313.1 gms***	***300.2 gms***	***2,689.2 gms***	***70.0 gms***	***68.7 gms***
3105U	6/8/95	650566-41	46 gms	15	TEAB	345 0 gms	444 1 gms	101.6 gms	909.6 gms	23 7 gms	23 2 gms
3105V	7/5/95	650566-41	46 gms	15	TEAB	345 0 gms	444 1 gms	101.6 gms	909.6 gms	23 7 gms	23 2 gms
3105S	7/7/95	651150-21	68 gms	15	TEAB	510.0 gms	656 6 gms	150 1 gms	1,344.6 gms	35 0 gms	34 3 gms
3105T	7/8/95	651150-21	68 gms	15	TEAB	510.0 gms	656.6 gms	150 1 gms	1,344 6 gms	35 0 gms	34.3 gms
Total for 1995							***2,201.4 gms***	***503.4 gms***	***4,508.4 gms***	***117.3 gms***	***115.1 gms***

Projected History **

		Igniter Type	Ave. Weight	Number Tested	Fluid Type	Quantity Consumed*	Species Produced* H20	B3H3O6	CO2	B2O3	AL2O3
LASR		651337	100 gms	15	TEAB	750 0 gms	965 5 gms	220 8 gms	1,977 4 gms	51.5 gms	50.5 gms
Atlas		651150-21	68 gms	30	TEAB	1,020 0 gms	1,313.1 gms	300.2 gms	2,689 2 gms	70 0 gms	68.7 gms
		651337	100 gms	30	TEAB	1,500 0 gms	1,931.0 gms	441 5 gms	3,954 7 gms	102 9 gms	101 0 gms
Delta		651150-21	68 gms	45	TEAB	1,530 0 gms	1,969 7 gms	450.4 gms	4,033.8 gms	105 0 gms	103 0 gms
		650566-41	46 gms	15	TEAB	345 0 gms	444 1 gms	101.6 gms	909.6 gms	23 7 gms	23 2 gms
Total Planned							***6,623.5 gms***	***1,514.5 gms***	***13,564.7 gms***	***352.9 gms***	***346.4 gms***
							13.2 lbs	***3.0 lbs***	***27.1 lbs***	***0.7 lbs***	***0.7 lbs***

* Due to testing only Assume 50% used during testing on average

** Based upon Program office business potential.

Vacuum Pumps

The Equipment Lab drained the oil from the KT850 Vacuum Pump and refilled pump with fresh oil. Sent oil to Chem Lab for analysis for chlorides. The Chemical Analysis Report showed only a trace of chlorides.

KOH/H_2O_2

Rinsed the KOH Load Tank and pump. Purged load line with GN_2.

Four (4) drums of 70% Hydrogen Peroxide (H_2O_2) were removed from the Storage Tank and stored at SPA. Approximately 280 gallons remain in the Storage Tank. In December 1991, the remaining 280 gallons will be drained to the Baker Tank. The H_2O_2 Storage Tank , Load Tank, and interconnecting systems will be rinsed down with de-ionized water and purged. The de-ionized water in the Rinse Tank, V-242, will be drained.

PRS STEAM SYSTEM

The Steam Accumulator and the BFW Tank were filled with distilled water to retard corrosion.

PRS VACUUM

The oil was drained from the reservoir and sampled. Results of the sample chemical analysis were 17.4 ppm Chloride and 42.6 ppm Iodide. Oil removed from the reservoir was disposed of as Hazardous Waste. (Ref. Waste Profile No. KO 1725) The Berm and area surrounding the pumps were steam cleaned. The reservoir was refilled with new oil.

PRS CONDENSERS

The Chilled Water was recirculated through the condensers three times and the water sampled after each cycle. Results of the samples were as follows: (See Appendix A for Chem Lab reports.)

	Chloride (ppm)	Iodide (ppm)	Iodine (ppm)
U/S Calgon Filter 1st Cycle	172	28.8	14.3
Between Calgon Adsorbers, 1st Cycle	176	22.9	11.9
D/S Calgon Filter, 1st Cycle	175	14.6	7.1
U/S Calgon Filter, 2nd Cycle	177	24.9	16.7
Between Calgon Adsorbers, 2nd Cycle	166	24.3	16.7
D/S Calgon Filter, 2nd Cycle	176	15.9	11.9

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	Chloride (ppm)	Iodide (ppm)	Iodine (ppm)
U/S Calgon Filter, 3rd Cycle	177	24.9	16.7
Between Calgon Adsorbers, 3rdCycle	179	28.8	7.1
D/S Calgon Filter, 3rd Cycle	179	18.8	7.1

Approval was obtained form the Environmental Control Unit to drain this water to the perimeter pond. The water (approximately 30,000 gallons) was drained and the vessels inspected for corrosion. Corrosion was minimal. The vessels were then refilled with filtered industrial water.

Samples of the PRS Condensor Packing (plastic), and metal scale from the interior of the condensers were sent to the Chem Lab for analysis . The Analysis Report Summary is as follows: (See Appendix A for Chem Lab reports.)

	Chloride (ppm)	Chlorine (ppm)	Iodide (ppm)	Iodine (ppm)
PRS 1st Stage Cond (Plastic)	142	ND	1.3	12.2
PRS 1st Stage Cond (Metal)	1432	ND	41.7	9.1
PRS 2nd Stage Cond (Plastic)	118	ND	1.1	11.9
PRS 2nd Stage Cond (Metal)	475	ND	22.6	10.3
PRS 3rd Stage Cond (Plastic)	85.2	ND	2.6	12.7
PRS 3rd Stage Cond (Metal)	142	ND	131	21.3
PRS 4th Stage Cond (Plastic)	92.8	ND	5.8	12.3
PRS 4th Stage Cond (Metal)	743	ND	13.2	19.1

PRS CALGON ADSORPTION UNITS

Two (2) lb samples of activated carbon were removed from the Calgon Adsorption Units and sent with the Absorbent Profile Document to the Carbon Acceptance Group, Pittsburgh, for analysis for Iodines, Iodides, Chlorine and Chlorides. Calgon will make a determination as to whether or not our units need to be recharged.

PRS SCRUBBER

The PRS Scrubber was drained and a sample sent to the Chem Lab for analysis for Chlorides and Iodides. Results of the analysis were 1130 mg/l chloride and none detected (ND) for Iodide. A sample of the scrubber plastic packing was also analyzed. The results were 48.4 mg/l Chloride and ND for Iodide. The PRS Scrubber berm was neutralized.

TRANSITION DUCT

The Transition Duct was thoroughly rinsed with water and drained. A sample of the effluent was sent to the Chem Lab for analysis. The results were 111 mg/l Chloride, 661 mg/l Iodide and 4 mg/l Iodine.

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SINGLE LINE EXPERIMENT (SLE) TRAILER

Pressure Transducers and Glass Venturi were removed from the Laser Fluid System and were decontaminated for Iodine per procedure FL343-88-248/7525G/0199G.

The Laser Device Fluid System was flushed with Acetone per procedure CTL-3-D-52 to remove Iodine from the system. Contamination tags were attached to the system to warn personnel of the possibility that residual Iodine may exist.

Waste Acetone/Iodine and the holding containers were disposed of thru the Environmental Group at Santa Susana.

All cleaning solvents were removed from the SLE Trailer and logged back into inventory on the CTL-3 Solvent Usage Report AB2588 Record.

The remaining Laser Fuel (C_3F_7I) is being stored in the Laser Fuel Refrigerator for safe keeping until paperwork (DD1149) is completed for shipment of fuel back to Kirkland Air Force Base.

SYLTHERM Heat Transfer Fluid was drained from all 3 Neslab Cooling Units and was inventoried and stored at SPA.

FINAL CLOSURE TASKS

It is anticipated that the CTL-3 caretaker activity will be in operation for a period of several months to one or perhaps two years. In order to meet the requirements to completely vacate the facility at the time that the caretaker effort ends, the following securing tasks must be completed:

1. Leave oil in Hydraulic Oil System. Tag system accordingly.

2. Drain and dispose of the Multitherm Oil in the Hot Oil System. Estimated cost 16 MH.

3. Leave oil in the three Kinney Vacuum Pumps and the PRS Ring Pump Accumulator to prevent corrosion. Blind Flange Pump inlets and outlets. Estimated cost 24 MH.

4. Drain water from the following vessels. (It should be noted that the CW Tanks, T-157 and V-107, and the PRS Condensers were triple rinsed, sampled, drained and refilled with clean water. Also, the Aspirator Supply Tank was rinsed, drained and refilled with clean water and the Steam Accumulator and the BFW Tank were filled with distilled water. It should be unnecessary to obtain additional samples from these vessels prior to draining.)

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Measure and record PH. If PH 9 or less, contact Ground Water Resources Unit and Environmental Control Unit and obtain approval to drain water to perimeter pond.

Aspirator Supply Tank V-903	7,000 Gallons
CW Supply Tank, T-157	54,000 Gallons
CW Return Tank, V-107	50,000 Gallons
Steam Accumulator, V-1201	7,000 Gallons
BFW Tank, V-207	1,000 Gallons
PRS Condensers, 4 Each	16,000 Gallons

Note: Vessel T-157 must be drained by pumping to CW Return Tank V-107 and then drained.

Estimated Cost to drain all vessels is about 40 MH.

5. Contact Calgon Carbon Corporation (Steve Wood (415) 572-9111) to coordinate the removal of spent carbon in the Adsorber Vessels. Estimated cost: 8MH, and $4200 material.

6. Sample product in Baker Tanks and dispose of with assistance from Environmental Control Unit. Sample sludge in bottom of tanks and dispose of as hazardous waste. Rinse tanks and dispose of effluent as hazardous waste. Disconnect and remove all lines and equipment around tanks to permit removal. Coordinate removal of tanks and termination of lease agreement with purchasing and supplier. Estimated cost 170 MH.

7. Iodine Disposal

   This estimate covers the necessary requirements to remove and dispose of approximately 280 pounds of Semi-Conductor Grade Iodine from the Iodine Boiler.

   It will require approximately five personnel to support the tasks of system activation, fluid and electrical system mods, iodine removal, and the securing of the systems after iodine removal has been completed. Personnel would be one mechanical engineer (half time), an instrumentation enginner (half time) electrical engineering support (half time), and three operations technicians. Support group tasks will also be required to activate the Iodine Detectors, supply pressure transducers, clean and process components, machine and weld assemblies and perform chemical analysis on scrubber solutions.

   The Iodine would be heated in the boiler and removed by a cold finger technique into stainless steel canisters. It is assumed that the Cooper Chemical Company will accept the Iodine as product. Cooper Chemical will not give Rocketdyne a money refund on the Iodine.

BNA03082565

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It is estimated that it would take approximately 480 man hours to complete these tasks and $4,000.00 in materials and shipping. The estimate includes a purge process to cover the decontamination of the boiler vessel and its associated valves and components.

8. Isolate the 5K GN_2 Bottle Bank from the GN_2 Distribution System and bleed the bottles. Secure all active GN_2 systems. Deactivate all Regulator Stations. Attach "Inactive" labels to all remaining relief valves and update CRIS records. Estimated cost is 25 MH.

9. Contact the Environmental Control Unit for assistance in disposing of all excess chemicals stored at the Storable Propellent Area (SPA) for CTL-3, reference (d) and (e). It is expected that there should be no difficulty in disposing of these chemicals as a product and not as hazardous waste. Coordination effort to dispose of these chemicals over a period of approximately two weeks is estimated to require about 20MH.

10. Close the industrial water valves to each building as facilities become inactive.

D. J. Tyker
E. I. C.
Iodine Laser Test - CTL-3

BNA03082566

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APPENDIX A

BNA03082567

HDMSt00006786

CHEMICAL ANALYSIS
REPORT

Log Number
91090438

TO: Donald Tyker DEPT/GROUP: 598-345 PHONE: 382-5770
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: NB 1225 pg. 122 REPORT DATE: 10/10/91

SAMPLE INFORMATION FOR 91090438

Sample Descrption: I2 Scrubber Packing Material
Requested Analysis: Iodine, Iodides
Received: 09/18/91 at 14:17:25
Sampler: -0- Sampler ID#: EWR 808301 Sample Time: -0-
Sampled: -0-

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Iodide	3.4, wt.ppm	2	Ion chromatography
Iodine	87.2, wt.ppm	1	Titration

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: -0-

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: A. C. Rutherford for M.D. Robertson -5782
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: V K Rajan
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082568

HDMSt00006787

CHEMICAL ANALYSIS REPORT

Log Number 91090370

TO: Lyndon Talbott DEPT/GROUP: 598-345 PHONE: 382-5551
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REPORT DATE: 10/24/91
REFERENCE: -0-

SAMPLE INFORMATION FOR 91090370

Sample Descrption: Oil, from KT-850 Vacuum Pump
Requested Analysis: Chlorides
Received: 09/16/91 at 14:23:17
Sampler: -0- Sampler ID#: EWR 810784 Sample Time: -0-
Sampled: 09/12/91

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chlorides	TR *, mg/L	0.5	Ion chromatography

SPECIFICATION: DNA (Unknown or unusual type of sample)
SPECIAL NOTES: None

COMMENTS: * No aqueous layer. 20ml.sample extracted with distilled water. Extract anal. by IC.

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082569

HDMSt00006788

CHEMICAL ANALYSIS
REPORT

Log Number
91090473

TO: Donald Tyker **DEPT/GROUP:** 598-345 **PHONE:** 382-5770
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: -0- **REPORT DATE:** 10/10/91

SAMPLE INFORMATION FOR 91090473

Sample Descrption: Oil, PRS Vac Pump (Shell Tellus #10)
Requested Analysis: Chlorides & Iodides
Received: 09/19/91 at 10:56:50
Sampler: -0- Sampler ID#: EWR 808310 Sample Time: -0-
Sampled: 09/19/91

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride *	17.4, mg/L	DNA	Ion chromatography
Iodide *	42.6, mg/L	DNA	Ion chromatography

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: * Aqueous (lower) layer analyzed. Volume of aq. layer, 12 ml.

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: A. C. Nam for M. D. Robertson
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: [signature]
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082570

HDMSt00006789

CHEMICAL ANALYSIS
REPORT

Log Number
91090124

TO: Lyndon Talbott DEPT/GROUP: 598-345 PHONE: 382-5551
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: NB 1225 p.111 REPORT DATE: 09/26/91

SAMPLE INFORMATION FOR 91090124

Sample Descrption: T-157, 4831HV PRS, Proc-CTL3-0-135, 1st Cycle
Requested Analysis: Chlorides, Iodides, Iodine
Received: 09/05/91 at 15:28:56
Sampler: Smith Sampler ID#: EWR 810724 Sample Time: -0-
Sampled: 08/28/91

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	172, mg/l	DNA	429/STD Meth. 16ed.
Iodide	28.8, mg/L	DNA	Ion chromatography
Iodine	14.3, mg/L	0.5	titrametric

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg111.

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: PJH _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____ VHN
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082571

HDMSt00006790

CHEMICAL ANALYSIS
REPORT

Log Number
91090125

TO: Lyndon Talbott DEPT/GROUP: 598-345 PHONE: 382-5551
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: NB 1225 p.111 REPORT DATE: 09/26/91

SAMPLE INFORMATION FOR 91090125

Sample Descrption: Between Absorber 4411HV PRS, Proc-CTL3-0-135, 1st Cycle
Requested Analysis: Chlorides, Iodides, Iodine
Received: 09/05/91 at 15:35:07
Sampler: Smith Sampler ID#: EWR 810724 Sample Time: -0-
Sampled: 08/28/91

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	176, mg/l	DNA	429/STD Meth. 16ed.
Iodide	22.9, mg/L	DNA	Ion chromatography
Iodine	11.9, mg/L	0.5	Titrametric

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg111.

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: AH _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____ DNA
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082572

HDMSt00006791

CHEMICAL ANALYSIS
REPORT

Log Number
91090126

TO: Lyndon Talbott DEPT/GROUP: 598-345 PHONE: 382-5551
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: NB 1225 p.111 REPORT DATE: 09/26/91

SAMPLE INFORMATION FOR 91090126

Sample Descrption: D/S Calgon Filters 4378HV PRS, Proc-CTL3-0-135, 1st Cycle
Requested Analysis: Chlorides, Iodides, Iodine
Received: 09/05/91 at 15:57:12
Sampler: Smith Sampler ID#: EWR 810724 Sample Time: -0-
Sampled: 08/28/91

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	175, mg/l	DNA	429/STD Meth. 16ed.
Iodide	14.6, mg/L	DNA	Ion chromatography
Iodine	7.1, mg/L	0.5	Titrametric

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg111.

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: AW
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED:
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082573

HDMSt00006792

7

CHEMICAL ANALYSIS REPORT

Log Number
91090127

TO: Lyndon Talbott DEPT/GROUP: 598-345 PHONE: 382-5551
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: NB 1225 p.111 REPORT DATE: 09/26/91

SAMPLE INFORMATION FOR 91090127

Sample Descrption: T-157, 4831HV PRS, Proc-CTL3-0-135, 2nd Cycle
Requested Analysis: Chlorides, Iodides, Iodine
Received: 09/05/91 at 15:32:03
Sampler: Smith Sampler ID#: EWR 810724 Sample Time: -0-
Sampled: 08/29/91

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	177, mg/l	DNA	429/STD Meth. 16ed.
Iodide	24.9, mg/L	DNA	Ion chromatography
Iodine	16.7, mg/L	0.5	Titrametric

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg111.

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082574

HDMSt00006793

CHEMICAL ANALYSIS
REPORT

Log Number
91090128

TO: Lyndon Talbott DEPT/GROUP: 598-345 PHONE: 382-5551
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: NB 1225 p.111 REPORT DATE: 09/26/91

SAMPLE INFORMATION FOR 91090128

Sample Descrption: Between Absorber 4411HV PRS, Proc-CTL3-0-135, 2nd Cycle
Requested Analysis: Chlorides, Iodides, Iodine
Received: 09/05/91 at 15:35:38
Sampler: Smith Sampler ID#: EWR 810724 Sample Time: -0-
Sampled: 08/29/91

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	166, mg/L	DNA	429/STD Meth.16ed.
Iodide	24.3, mg/L	DNA	Ion chromatography
Iodine	16.7, mg/L	0.5	Titrametric

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg111.

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082575

HDMSt00006794

CHEMICAL ANALYSIS
REPORT

Log Number
91090129

TO: Lyndon Talbott DEPT/GROUP: 598-345 PHONE: 382-5551
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: NB 1225 p.111 REPORT DATE: 09/26/91

SAMPLE INFORMATION FOR 91090129

Sample Descrption: D/S Calgon Filters 4378HV PRS, Proc-CTL3-0-135, 2nd Cycle
Requested Analysis: Chlorides, Iodides, Iodine
Received: 09/05/91 at 15:57:35
Sampler: Smith Sampler ID#: EWR 810724 Sample Time: -0-
Sampled: 08/29/91

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	176, mg/L:	DNA	429/STD Meth. 16ed.
Iodide	15.9, mg/L	DNA	Ion chromatography
Iodine	11.9, mg/L	0.5	Titrametric

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg111.

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N/S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082576

HDMSt00006795

CHEMICAL ANALYSIS
REPORT

Log Number
91090131

TO: Lyndon Talbott DEPT/GROUP: 598-345 PHONE: 382-5551
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: NB 1225 p.111 REPORT DATE: 09/26/91

SAMPLE INFORMATION FOR 91090131

Sample Descrption: Between Absorber 4411HV PRS, CTL-3, 3rd Cycle
Requested Analysis: Chlorides, Iodides, Iodine
Received: 09/05/91 at 15:55:43
Sampler: -0- Sampler ID#: EWR 810724 Sample Time: -0-
Sampled: 09/03/91

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	179, mg/L	DNA	429/STD Meth. 16ed.
Iodide	28.8, mg/L	DNA	Ion chromatography
Iodine	7.1, mg/L	0.5	Titrametric

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg111.

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082577

HDMSt00006796

CHEMICAL ANALYSIS
REPORT

Log Number
91090132

TO: Lyndon Talbott
DEPT/GROUP: 598-345 PHONE: 382-5551
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REPORT DATE: 09/26/91
REFERENCE: NB 1225 p.111

SAMPLE INFORMATION FOR 91090132

Sample Descrption: D/S Calgon Filters 4378HV PRS, CTL-3, 3rd Cycle
Requested Analysis: Chlorides, Iodides, Iodine
Received: 09/05/91 at 15:58:57
Sampler: -0- Sampler ID#: EWR 810724 Sample Time: -0-
Sampled: 09/03/91

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	179, mg/L	DNA	429/STD Meth.
Iodide	18.8, mg/L	DNA	Ion chromatography
Iodine	7.1, mg/L	0.5	Titrimetric

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg111.

* ABBREVIATIONS *

1) TR = Trace
2) ND = None detected
3) < = Less than
4) > = Greater than
5) DNA = Does not apply
6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082578

HDMSt00006797

CHEMICAL ANALYSIS REPORT

Log Number
91090197

TO: Donald Tyker DEPT/GROUP: 598-345 PHONE: 382-5770
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: NB 1225 p 111 REPORT DATE: 10/05/91

SAMPLE INFORMATION FOR 91090197

Sample Descrption: PRS Condenser #1 Packing (plastic)
Requested Analysis: Chlorine, chlorides, iodine, iodides
Received: 09/09/91 at 16:26:41
Sampler: -0- Sampler ID#: EWR 810742 Sample Time: -0-
Sampled: -0-

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	142, wt.ppm	DNA	Ion chromatography
Chlorine	ND, wt.ppm	5	Redox chem
Iodide	1.3, wt ppm	DNA	Ion chromatography
Iodine	12.2, wt ppm	DNA	Titration

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg 111

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: AH MD Robb
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: V H Dayan
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082579

HDMSt00006798

13

CHEMICAL ANALYSIS REPORT

Log Number
91090198

TO: Donald Tyker DEPT/GROUP: 598-345 PHONE: 382-5770
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: -0- REPORT DATE: 10/05/91

SAMPLE INFORMATION FOR 91090198

Sample Descrption: PRS Condenser #1 Metal Scale
Requested Analysis: Chlorine, chlorides, iodine, iodides
Received: 09/09/91 at 16:30:17
Sampler: -0- Sampler ID#: EWR 810742 Sample Time: -0-
Sampled: -0-

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	1432, wt ppm	DNA	Ion chromatography
Chlorine	ND, wt ppm	5	Redox chem
Iodide	41.7, wt ppm	5	Ion chrmatography
Iodine	9.1, wt ppm	0.10	Titration

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg111

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: AH _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082580

HDMSt00006799

CHEMICAL ANALYSIS
REPORT

Log Number
91090199

TO: Donald Tyker DEPT/GROUP: 598-345 PHONE: 382-5770
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: -0- REPORT DATE: 10/05/91

SAMPLE INFORMATION FOR 91090199

Sample Descrption: PRS Condenser #2 Packing (plastic)
Requested Analysis: Chlorine, chlorides, iodine, iodides
Received: 09/09/91 at 16:28:58
Sampler: -0- Sampler ID#: EWR 810742 Sample Time: -0-
Sampled: -0-

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	118, wt ppm	DNA	Ion chromatography
Chlorine	ND, wt ppm	5	Redox chem
Iodide	1.1, wt ppm	DNA	Ion chromatography
Iodine	11.9, wt ppm	0.10	Titration

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg111.

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: AH _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082581

HDMSt00006800

CHEMICAL ANALYSIS
REPORT

Log Number
91090200

TO: Donald Tyker DEPT/GROUP: 598-345 PHONE: 382-5770
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: NB 1225 pg 111 REPORT DATE: 10/08/91

SAMPLE INFORMATION FOR 91090200

Sample Descrption: PRS Condenser #2 Metal Scale
Requested Analysis: Chlorine, chlorides, iodine, iodides
Received: 09/09/91 at 16:30:39
Sampler: -0- Sampler ID#: EWR 810742 Sample Time: -0-
Sampled: -0-

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	475, wt ppm	DNA	Ion chromatography
Chlorine *	ND, wt ppm	0.1	Redox
Iodide	22.6, wt ppm	DNA	Ion chromatography
Iodine *	10.3, wt ppm	0.1	Titration

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: * Data package with 91090204.

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082582

HDMSt00006801

CHEMICAL ANALYSIS REPORT

Log Number
91090201

TO: Donald Tyker DEPT/GROUP: 598-345 PHONE: 382-5770
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: -0- REPORT DATE: 10/05/91

SAMPLE INFORMATION FOR 91090201

Sample Descrption: PRS Condenser #3 Packing (plastic)
Requested Analysis: Chlorine, chlorides, iodine, iodides
Received: 09/09/91 at 16:29:21
Sampler: -0- Sampler ID#: EWR 810742 Sample Time: -0-
Sampled: -0-

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	85.2, wt ppm	DNA	Ion chromatography
Chlorine	ND, wt ppm	5	Redox chem
Iodide	2.6, wt ppm	DNA	Ion chromatography
Iodine	12.7, mg/L	0.10	Titration

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg 111

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: AH _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082583

HDMSt00006802

CHEMICAL ANALYSIS REPORT

Log Number
91090202

TO: Donald Tyker DEPT/GROUP: 598-345 PHONE: 382-5770
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: -0- REPORT DATE: 10/05/91

SAMPLE INFORMATION FOR 91090202

Sample Descrption: PRS Condenser #3 Metal Scale
Requested Analysis: Chlorine, chlorides, iodine, iodides
Received: 09/09/91 at 16:31:02
Sampler: -0- Sampler ID#: EWR 810742 Sample Time: -0-
Sampled: -0-

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	142, wt ppm	DNA	Ion chromatography
Chlorine	ND, wt ppm	5	Redox chem
Iodide	131, wt ppm	DNA	Ion chromatography
Iodine	21.3, wt ppm	0.10	Titration

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg 111

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: AH _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082584

HDMSt00006803

CHEMICAL ANALYSIS
REPORT

Log Number
91090203

TO: Donald Tyker DEPT/GROUP: 598-345 PHONE: 382-5770
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: -0- REPORT DATE: 10/05/91

SAMPLE INFORMATION FOR 91090203

Sample Descrption: PRS Condenser #4 Packing (plastic)
Requested Analysis: Chlorine, chlorides, iodine, iodides
Received: 09/09/91 at 16:29:42
Sampler: -0- Sampler ID#: EWR 810742 Sample Time: -0-
Sampled: -0-

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	92.8, wt ppm	DNA	Ion chromatography
Chlorine	ND, wt ppm	5	Redox chem
Iodide	5.8, wt ppm	DNA	Ion chromatography
Iodine	12.3, wt ppm	0.10	Titration

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg111

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: AH _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082585

HDMSt00006804

CHEMICAL ANALYSIS
REPORT

Log Number
91090204

TO: Donald Tyker DEPT/GROUP: 598-345 PHONE: 382-5770
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: -0- REPORT DATE: 10/05/91

SAMPLE INFORMATION FOR 91090204

Sample Descrption: PRS Condenser #4 Metal Scale
Requested Analysis: Chlorine, chlorides, iodine, iodides
Received: 09/09/91 at 16:31:19
Sampler: -0- Sampler ID#: EWR 810742 Sample Time: -0-
Sampled: -0-

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	743, wt ppm	DNA	Ion chromatography
Chlorine	ND, wt ppm	5	Redox chem
Iodide	13.2, wt ppm	DNA	Ion chromatography
Iodine	19.1, wt ppm	0.10	Titration

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: NB 1225 pg111

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082586

HDMSt00006805

CHEMICAL ANALYSIS REPORT

Log Number
91100099

TO: Lyndon Talbott DEPT/GROUP: 598-345 PHONE: 382-5551
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REPORT DATE: 10/16/91
REFERENCE: NB 1225 pg. 122

SAMPLE INFORMATION FOR 91100099

Sample Descrption: PRS Scrubber Sample
Requested Analysis: KOH, Chloride, Iodide, Iodine, Oil
Received: 10/02/91 at 15:42:59
Sampler: -0- Sampler ID#: EWR 808369 Sample Time: -0-
Sampled: 10/01/91

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	1130, mg/L	DNA	Ion chromatography
Iodide	ND, mg/L	2.0	Ion chromatography
KOH	0.63, wt %	DNA	DNA
Oxidizer,10/09/91; mg/L	as chlorine;369 *,	DNA	Redox titration
Oxidizer,10/10/91; mg/L	as chlorine;179 **,	DNA	Redox titration

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: Oil analysis canceled by customer due to insufficient sample.Resample is planned.
*1320 as Iodine.**641 as Iodine.

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082587

HDMSt00006806

CHEMICAL ANALYSIS REPORT

Log Number 91090474

TO: Donald Tyker DEPT/GROUP: 598-345 PHONE: 382-5770
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REPORT DATE: 10/24/91
REFERENCE: -0-

SAMPLE INFORMATION FOR 91090474

Sample Descrption: PRS Scrubber Plastic Packing Material, CTL-3
Requested Analysis: Chlorides & Iodides
Received: 09/19/91 at 10:59:03
Sampler: -0- Sampler ID#: EWR 808308 Sample Time: -0-
Sampled: 09/19/91

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	48.4, mg/kg	DNA	Ion chromatography
Iodide	ND, mg/kg	5	Ion chromatography

SPECIFICATION: DNA (Support to CTL III testing)
SPECIAL NOTES: -0-

COMMENTS: -0-

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: _____
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: _____
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082588

HDMSt00006807

22

CHEMICAL ANALYSIS REPORT

Log Number 91100330

TO: Lyndon Talbott DEPT/GROUP: 598-345 PHONE: 382-5551
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REPORT DATE: 10/24/91
REFERENCE: -0-

SAMPLE INFORMATION FOR 91100330

Sample Descrption: Transition duct rinse water, CTLIII
Requested Analysis: Iodine, Iodide, Chloride
Received: 10/14/91 at 10:37:11
Sampler: L. F. Sampler ID#: EWR 808275 Sample Time: -0-
Sampled: 10/14/91

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Chloride	111, mg/L	DNA	Ion chromatography
Iodide	661, mg/L	DNA	Ion chromatography
Iodine*	4, mg/L	1	Titration

SPECIFICATION: DNA (Unknown or unusual type of sample)
SPECIAL NOTES: None

COMMENTS: *Iodine concentration reported on filtrate. When suspended solids were included result was 70mg/L as iodine.

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: M J Robertson
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: Victor H Rayon
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082589

HDMSt00006808

23

CHEMICAL ANALYSIS REPORT

Log Number
91100132

TO: Lyndon Talbott DEPT/GROUP: 598-345 PHONE: 382-5551
FROM: SSFL Analytical Chemistry, Rocketdyne Div. Rockwell International, D/436, ext. 5827
REFERENCE: NB 1225 pg. 122 REPORT DATE: 10/09/91

SAMPLE INFORMATION FOR 91100132

Sample Descrption: Acetone & I2 - CTL III, SLE Trailer Waste Drum
Requested Analysis: Waste Stream Profile
Received: 10/04/91 at 11:02:59
Sampler: -0- Sampler ID#: EWR 808372 Sample Time: -0-
Sampled: 10/04/91

ANALYTE	RESULT, UNITS	DETECTION LIMIT	METHOD/SOURCE
Iodine	4.0, mg/L	1	Titration

SPECIFICATION: DNA (Hazardous Waste)
SPECIAL NOTES: Limits not specified by requester

COMMENTS: -0-

* ABBREVIATIONS *

1) TR = Trace 2) ND = None detected 3) < = Less than
4) > = Greater than 5) DNA = Does not apply 6) N.S. = Not Stated
7) *** = Non-certified result for indication purposes only

APPROVED: MD Rubin 9/17
Manager
Rocketdyne SSFL Analytical Chemistry

SIGNED: Lynn H Lindquist
Chemist
Rocketdyne SSFL Analytical Chemistry

BNA03082590

HDMSt00006809